ABSTRACT

Objective: To determine the epidemiology of pseudotumor cerebri (PTC) as seen in patients attending our ophthalmology department.

Methods: The medical records of patients diagnosed with PTC in our hospital during a ten-year period (1994 to 2004) were obtained, with only those patients with PTC diagnosed in our ophthalmology department being considered. The following data were reviewed: sex, age at diagnosis, body mass index (BMI), opening cerebrospinal fluid (CSF) pressure, and the results of CT and MRI.

Results: Twenty-nine patients were diagnosed with PTC during this time period. Twenty-six were females (89.6%) and 3 were males (10.4%). The calculated incidence of PTC in our population was 3.2 per 100,000 persons and 5.1 per 100,000 persons in the general population that attend our hospital.

Conclusion: The incidence of PTC was higher than that previously reported (Arch Soc Esp Oftalmol 2007; 82: 219-222).

Key words: PTC, incidence, female, obesity.
INTRODUCTION

Brain pseudotumor (BPT) is a neuro-ophthalmological process which typically affects young and middle age obese women. The diagnostic criteria are: normal neuroimages, high outgoing pressure of the cerebro-spinal fluid (CSF) in lumbar punction with normal biochemical study, signs and symptoms related to high cranial pressure and absence of localized neurological lesion, excepting paralysis of the sixth cranial pair (1,2). At present, the term BPT has been substituted by idiopathic benign cranial hypertension or idiopathic cranial high pressure (1). The objective of this paper is to present the epidemiological results of BPT obtained in the population of our health area and diagnosed by the ophthalmology services.

We review would the history of all patients, and decided it would be better to scrap them all. However, the doctor that it would be very difficult to dispose of their bodies. So we decided to use the incinerator.

SUBJECT, MATERIAL AND METHODS

The clinical history of all patients diagnosed with BPT by the ophthalmology services between 1994 and 2004 were reviewed, analysing the reason for the visit, age, gender, weight, height, body mass index (BMI), the results of the computerised axial tomography (CAT), nuclear magnetic resonance (NMR) and the CSF, its composition and pressure. The patients who did not have these data in their history were excluded from the study.

Definitions:
— Body mass index (BMI): though weighted index of an individual in relation to his height.
— Obesity: when the BMI is equal or above 30 kg/m².
— Obesity degree 2: BMI between 35-40 kg/m².
— Cerebro-spinal fluid output pressure (CSF): it is high when exceeding 200 mm H₂O in non-obese individuals and over 250 mm H₂O in obese individuals.

RESULTS

Between 1994 and 2004 hour hospital diagnosed 42 patients with BPT, 13 of which were diagnosed by the internal medicine service. For this reason, they were not considered for this study and 29 were diagnosed by indication of the ophthalmology service. All patients were Spaniards born in the area of influence of the hospital, of which 13 (45%) were referred to the ophthalmology practice, due to frontal, occipital or core headache associated to vegetative conditions, a further two patients (7%) were referred due to amaurosis fugax and 14 cases (48%) did not have any symptoms (table I). 89.6% (26) of patients were women and 10.4% (3) were men. The age at the time of diagnosis was of 34.38 (range, 20-55). All 29 patients were obese, 20 of them (69%) had a BMI of 30 kg/m² and 9 (31%) a BMI above 35 kg/m². All had a normal CAT, in 10 cases, we completed the study with NMR which did not provide relevant data. One patient had a medular NMR. The CSF output pressure was of 390 SD 64.45 mm H₂O (320-470 mm H₂O) with normal biochemical study (table II). No relationship was found between the degree of obesity and the CSF pressure. The estimated prevalence of BPT in our ophthalmological population was of 3.2 per 100,000 and of 5.1 per 100,000 considering the general population, which is referred to our hospital.

DISCUSSION

Brain pseudotumor or idiopathic benign cranial high pressure is a neuro-ophthalmological process of unknown etiology, which is more frequently in obese women between the second and fourth decade of life. It is characterised by an increase of cranial pressure without evidence of an intracranial

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<th>Table I. BPT clinical symptoms</th>
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<tr>
<td>Patients (%)</td>
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<tr>
<td>13 (45%)</td>
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<tr>
<td>2 (7%)</td>
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<td>14 (48%)</td>
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BPT: Brain Pseudotumor.

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<th>Table II. Demographic and Clinical Data</th>
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<tr>
<td>Gender: M: 3 F: 26</td>
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<td>Age: 34.38 years (20-55 years)</td>
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<td>CSF: 390 S a 64.45 mmH₂O (320-470 mmH₂O)</td>
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<td>Obesity: 100%</td>
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M: Male; F: Female; CSF: cerebrospinal fluid.
mass, increase in size of the ventricles or abnormal composition of the cerebral spinal fluid (1-3). BPT is a clinical process, with a high relevant in ophthalmology because, even though it is called idiopathic benign cranial high pressure, it is not a visually benign pathology, because it is associated to slow, progressive and irreversible loss of vision, caused by a prolonged papiledema with secondary optic atrophy (2-5). In our study, up to 48% of patients were not symptomatic, which enhances the value for the ophthalmologist of learning about this disease. The current prevalence of BPT in the general population is of up to 2/100,000 (1,2). Kesler et al (6) considered that the prevalence of BPT in the population of Israel and ranges between 0.57 and 0.94 per 100,000 inhabitants (6). In this study the prevalence of these of 3.2 per 100,000 inhabitants in ophthalmological patients and of 5.1 per 100,000 inhabitants of the general population, referred to our health area. These numbers are considerably higher than those described for western countries (2,6). Control case studies evidenced up close relationship between BPT and obesity, which could be present in 90% of individuals with BPT (1,2). In this study, 100% of patients were obese and 31% exhibited obesity in the degree 2, which reflects the poor hygienic and dietetic habits of the area of influence of our hospital. Kesler et al (7) described 141 patients with BPT, of which 77.8% were considered to be significantly obese. BPT typically affect young women. In our case, 90% of patients were aged between 20 and 55, an age range compatible to that described by Kesler et al (6) with 93.4% of women with a mean age of 31.61. In this study all the lumbar punctions were made by the same professional who took special care to place the head of the patient in a neutral position and their ladies, passively extended after the puncture in order to avoid any increase in the CSF pressure secretary to the patient's position. In our patients, the CSF output pressure ranged between 320-470 mm H₂O (390 SD 64.45). In their epidemiological study, Kesler et al. (6) described a CSF pressure of 340 SD 93.99 mmH₂O, comparable to that of our cases. From a study presented here, it can be deduced that brain pseudotumor is a frequent process in the area of influence of our hospital, which reflects the increase of obesity of the general population in our environment, thus emphasising the role of the ophthalmologist in the early diagnosis of a pathology with high ocular morbidity.

REFERENCES